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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO.       |
|---|-------------|----------------------|--------------------------|------------------------|
| 10/822,581  | 04/12/2004  | Robert Burgmeier     | S63.2-10865-US01         | 2645                   |
| 490 7590 07/13/2007<br>VIDAS, ARRETT & STEINKRAUS, P.A.<br>SUITE 400, 6640 SHADY OAK ROAD<br>EDEN PRAIRIE, MN 55344 |             |                      | EXAMINER<br>TRAN, THAO T |                        |
|   |             |                      | ART UNIT<br>1711         | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>07/13/2007  | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/822,581 | <b>Applicant(s)</b><br>BURGMEIER ET AL. |  |
|                              | <b>Examiner</b><br>Thao T. Tran      | <b>Art Unit</b><br>1711                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 39-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 39-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This is in response to the Appeal Brief filed on March 08, 2007.
2. In light of further consideration, the finality of the previous Office action is hereby withdrawn. A new rejection of the claims is set forth below.
3. Claims 1-13 and 39-44 are currently pending in this application.

#### ***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-13 and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (US Pat. 5,195,969), Samuelson et al. (US Pat. 6,464,683), or Boer et al. (US Pat. 6,355,358) in view of Shimura et al. (US Pat. 5,441,488). Boer is cited by Applicants in the IDS of 9/16/2005.

Wang teaches a laminate in a medical balloon or a catheter, the laminate comprising an innermost layer of polyethylene, an outermost layer of Nylon (polyamide), and a layer of Plexar sandwiched in between. Plexar is an anhydride-modified polyolefin. (See Figs 3-4; col. 4, ln. 14-15, 46-49).

Samuelson teaches a laminate in a medical tubing, the laminate comprising an outer layer 16, a core layer 12, and an intermediate tie layer 14 interposed between the outer layer and the core layer (see abstract; Fig. 1). The outer layer comprises a polyester or polyamide; the core layer comprises a polyethylene; and the intermediate tie layer comprises a polymeric material

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comprising functionality capable of adhering outer layer 16 to core layer 12. (See col. 6, ln. 5-6, 41-45, 57-59). The polymer of the intermediate tie layer comprises modified olefinic polymer having an anhydric moiety or maleic acid (see col. 7, ln. 12-51).

However, neither Wand nor Samuelson teaches the amount of the modifying compound of the polyolefin or a catalyst in the intermediate layer.

Boer discloses an article comprising a thermoplastic multilayer composite. The multilayer composite has at least one layer I, at least one layer II, and an adhesion promoter (tie layer) disposed in between layer I and layer II (see abstract).

Boer further discloses that layer I comprises a polyamide molding composition. Layer II comprises a polyester molding composition (see col. 6, ln. 1-2). The adhesion promoter comprises at least 5% by weight of a graft copolymer prepared from the following monomers: (a) a polyamine and (b) polyamide-forming monomers selected from lactams, aminocarboxylic acid, and/or equimolar combinations of diamine and dicarboxylic acid (see paragraph bridging col. 2-3), and 0.01-4.2 mol of an oligocarboxylic acid (see col. 4, ln. 8-13), which appears to meet the requirement of the coupling agent in the presently claimed invention.

The adhesion promoter layer in the invention of Boer further comprises polyamide and polyester (see paragraph bridging col. 7-8). The polymer composition in the adhesion promoter layer is crosslinked and a melt (see col. 5, ln. 22-44).

With respect to how the polymer is crosslinked, it has been within the skill in the art that how crosslinking of the polymer occurs would have no significant patentable weight.

The polyamide composition in layer I further contains up to 40% by weight of ethylene-propylene copolymers or aliphatic olefin copolymers (see col. 6, ln. 39-48).

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Boer does not teach the use of an acid anhydride-modified polyolefin or a catalyst.

Shimura teaches a modified polyolefin as an adhesive in a laminate, the modified polyolefin comprising maleic anhydride is deposited on polyolefin or polyamide (see col. 4, ln. 51-56; col. 5, ln. 1-7). The content of acid anhydride is 0.5-50% (see col. 5, ln. 9-10). The composition further comprises a catalyst, such as tertiary amine, to promote the reaction of the acid anhydride (see col. 5, ln. 40-43).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have employed the modified polyolefin with the acid anhydride content and the catalyst, as taught by Shimura, in the tie layer of Wang, Samuelson, or Boer, for the purpose of enhancing adhesion between the tie layer and the outer and inner layer. This is because Shimura teaches that the use of such modified polyolefin and catalyst would have improved bonding and crosslinking between the modified polyolefin and polyamide or polyester.

It is noted that in the prior art section of Boer, a catalyst is used in the adhesion promoter layer. Thus, it would have been obvious to one of ordinary skill in the art to have employed a catalyst in the adhesion promoter layer of Boer for the purpose of enhancing the efficacy of polymerization of the copolymer in the layer.

### ***Response to Arguments***

6. Applicant's arguments in the Appeal Brief filed on March 08, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the

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teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both Wang and Samuelson disclose an anhydride-modified polyolefin in an intermediate layer. Shimura is used to illustrate that the use of a modified polyolefin comprising an acid anhydride in the recited range has been taught in the prior art, for the purpose of enhancing bonding and crosslinking between the layers. Thus, Shimura is used to remedy Wang and Samuelson.

It is noted that throughout Applicants' arguments the coupling agent selected from polycarboxylic acid has been left out, whereas this coupling agent is recited in the claimed invention.

In response to Applicants' arguments that the Shimura does not teach the catalyst in the moldable layer, it is noted that the catalyst in Shimura is also used to enhance the reaction of the acid anhydride with a polymer in another layer.

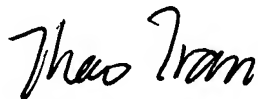
#### ***Contact Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thao T. Tran  
Primary Examiner  
Art Unit 1711

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